



# INT SPECIFICATION

WINGS ATTACHED

1,187,712

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## COMPLETE SPECIFICATION

### Roller Conveyor

GREAT BRITAIN  
GROUP 313.....  
CLASS. 193.....  
RECORDED

We, DEMAG-ZUG G.M.B.H., of Wetter/  
Ruhr, Germany, a German Company, do  
hereby declare the invention, for which we  
pray that a patent may be granted to us,  
and the method by which it is to be per-  
formed, to be particularly described in and  
by the following statement:

The invention relates to a roller conveyor,  
in which the supporting frame is provided  
with lateral guides for conveyed loads, the  
side walls being provided with brackets for  
rollers.

Roller conveyors have very frequently to  
be provided with guides in order to prevent  
the conveyed loads from sliding laterally off  
the roller conveyor. At the positions of  
removal from the conveyors, such guides  
are, however, inconvenient, and the walls of  
the supporting frame have thus to be  
assembled from various sections. This in-  
creases the cost of the installation.

It is the object of the invention to mitigate  
this disadvantage by simple means and at  
little expense. In accordance with the inven-  
tion, there is provided a roller conveyor, in  
which the side walls of the supporting frame  
are provided with brackets for the conveyor  
rollers, in which the side walls have an  
inwardly directed profile and are provided  
with a flange compressing a guide for con-  
veyed loads and the brackets are respectively  
provided with journals which are either  
directed towards or away from each other.

Thus at extremely little expense and by  
simple means the side walls of the supporting  
frame may be used in two different positions,  
that is to say either with the inwardly  
directed flange at the top, to serve as a  
guide, or with the inwardly directed flange at  
the bottom. In the latter case, in which it  
would be inconvenient for, for example, an  
outwardly directed strip, to be disposed at  
the top at a position of removal of loads

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from the roller conveyor, this strip is now  
disposed at the bottom and may constitute  
a protection against accidental contact with  
any chain drive as may be provided.

The two journals of a bracket are prefer-  
ably directed away from each other, since  
the insertion of the rollers into the support-  
ing frame is then easier than with journals  
directed towards each other.

In both constructions, the journals enclose  
stub-axles of the roller or the outer ring  
of a roller bearing or ball-bearing mounted  
thereon, preferably at the angle at centre  
slightly exceeding 180°, so that a resistance  
has to be overcome upon insertion and with-  
drawals of the rollers.

The brackets are advantageously pressed  
metal sections which are welded to the inside  
of the web of the wall.

A particularly advantageous construction  
is obtained by providing the side walls of  
a substantially Z-shaped profile, in which  
the outer edge of an outwardly extending  
arm is bent back inwardly, so that a flat  
U-shaped cross-section open on the inside  
is imparted thereto. The lateral edge of the  
side wall is then rounded to form the cross-  
section of U-shape, which affords advantages  
particularly at the positions of withdrawal.  
Moreover, the rigidity of the supporting  
frame is considerably increased by this  
profile.

One construction according to the inven-  
tion is illustrated by way of example in the  
accompanying diagrammatic drawings, in  
which

Figure 1 is a cross-section through a roller  
conveyor, in which the side walls are sym-  
metrically positioned;

Figure 2 is a cross-section of the same  
frame with an inverted side wall;

Figure 3 shows, on an enlarged scale, a  
view of a bracket in which the journals are

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directed away from each other, and

Figure 4 is a longitudinal section through the bracket, in which the end of the roller is supported.

- 5 The roller 1 of a gravity-roller conveyor has two stub-axes 2 to which the inner rings of ball-bearings 3 are secured, which are enclosed by elastic protecting caps 4 by which the ball-bearings are protected against

10 harmful extraneous influences.

- The roller 1 together with the protecting caps 4 is inserted in brackets 5 which are welded to the inside of the side walls 6 and 7 and possess respectively two journals 8, 9 which are directed away from each other so that—as shown in Figures 1 and 2—the side walls 6, 7 may be mounted symmetrically to each other with the inwardly directed flange 10 at the top (Figure 1) or at the bottom as suitable. It will be understood that they may also be provided asymmetrically, as shown in Figure 2, for example at a position of removal of the conveyed loads from the conveyor provided on one side only.

- 25 The side walls 6, 7 are of a substantially Z-shaped section, in which the end of one flange 10, bent in the direction of the roller axis, constitutes a guide 11 for the conveyed loads. The other flange 12 is bent back to form the letter "U", and is thus provided with an external curvature or shoulder 13, so that a special edge protection may be dispensed with. Moreover, the rigidity of the side walls 6 and 7 is also increased thereby.
- 35 The brackets 5 are pressed metal sections. The journals 8, 9 are so constructed as to enclose the cylindrical surface of the protective cap at an angle at centre slightly exceeding  $180^\circ$  with resultant clamping effect. The reference numeral 14 denotes spot-welding welds.

#### WHAT WE CLAIM IS:—

1. A roller conveyor, in which the side walls of the supporting frame are provided with brackets for the conveyor rollers, in which the side walls have inwardly directed profile, and are provided with a flange com-

prising a guide for conveyed loads, and the brackets are respectively provided with journals which are either directed towards each other or are directed away from each other.

2. A rollers conveyor according to claim 1, in which the journals enclose stub-axes of the rollers, or the outer ring of a bearing mounted thereon, at a centre angle ( $\alpha$ ) slightly exceeding  $180^\circ$ .

3. A roller conveyor according to claim 1 or claim 2, in which an elastic protecting cap encasing the bearing is provided between the stub-axle and the outer ring of the bearing.

4. A roller conveyor according to any of claims 1 to 3, in which the brackets are positioned on the side walls in such manner as to enable them to be used optionally with an inwardly directed flange thereof disposed at the top, or at the bottom.

5. A roller conveyor according to claim 4, in which the height of the web of a wall section is such that, in both possible positions of the walls, the web and the inwardly directed flange form a protection against accidental contact with a driving chain.

6. A roller conveyor according to any of claims 1 to 5, in which the brackets are pressed metal sections.

7. A roller conveyor according to any of claims 1 to 6, in which the brackets are welded to the webs of the walls.

8. A roller conveyor according to any of claims 1 to 7, in which the side walls have a substantially Z-shaped cross-section.

9. A roller conveyor according to claim 8, in which the outer edge of the outwardly extending flange of the Z-section is bent back inwardly to form a shoulder or curvature.

10. A roller conveyor, substantially as hereinbefore described and illustrated in the accompanying drawings.

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